

**Table 7.** Regression equations based on active-channel width ( $W_{ac}$ )

[Abbreviations:  $n$ , number of stations used in the regression analysis;  $Q_T$ , annual peak discharge, in cubic feet per second, for recurrence interval  $T$ , in years;  $W_{ac}$ , width of active channel, in feet;  $SEP$ , standard error of prediction;  $EYR$ , equivalent years of record. Symbol: --, not applicable]

Regression Equation	Error Variance, log units			Average SEP, in log units	Average SEP, in percent	EYR
	Average sampling	Model	Measurement			
West Region (n = 93)						
$Q_2 = 1.11 W_{ac}^{1.74}$	0.0013	0.040	0.023	0.252	63.5	1.3
$Q_5 = 2.46 W_{ac}^{1.63}$	.0013	.038	.020	.244	61.1	1.8
$Q_{10} = 3.75 W_{ac}^{1.58}$	.0015	.040	.018	.245	61.4	2.2
$Q_{25} = 5.81 W_{ac}^{1.51}$	.0017	.045	.017	.252	63.4	2.8
$Q_{50} = 7.61 W_{ac}^{1.48}$	.0019	.050	.016	.261	66.2	3.0
$Q_{100} = 9.57 W_{ac}^{1.45}$	.0022	.056	.016	.272	69.6	3.2
$Q_{200} = 11.8 W_{ac}^{1.43}$	.0024	.064	.015	.286	73.8	3.3
$Q_{500} = 15.0 W_{ac}^{1.41}$	.0028	.075	.015	.304	79.8	3.3
Northwest Region (n = 29)						
$Q_2 = 1.57 W_{ac}^{1.67}$	.004	.076	.021	.318	84.3	--
$Q_5 = 5.04 W_{ac}^{1.50}$	.004	.066	.017	.294	76.4	--
$Q_{10} = 9.68 W_{ac}^{1.40}$	.004	.069	.015	.297	77.3	--
$Q_{25} = 21.3 W_{ac}^{1.30}$	.004	.075	.012	.302	79.1	--
$Q_{50} = 36.1 W_{ac}^{1.24}$	.005	.081	.011	.312	82.3	--
$Q_{100} = 60.0 W_{ac}^{1.19}$	.005	.089	.011	.325	86.7	--
$Q_{200} = 92.7 W_{ac}^{1.16}$	.006	.100	.010	.342	92.9	--
$Q_{500} = 164 W_{ac}^{1.12}$	.007	.120	.009	.370	103.4	--
Northwest Foothills Region (n = 22)						
$Q_2 = 5.79 W_{ac}^{1.23}$	.017	.115	.011	.378	106.6	2.7
$Q_5 = 25.6 W_{ac}^{1.09}$	.015	.084	.009	.328	87.8	5.1
$Q_{10} = 54.6 W_{ac}^{1.03}$	.016	.085	.008	.329	88.3	6.8
$Q_{25} = 119 W_{ac}^{0.969}$	.019	.095	.007	.349	95.3	8.4
$Q_{50} = 194 W_{ac}^{0.94}$	.022	.108	.007	.371	103.7	9.2
$Q_{100} = 297 W_{ac}^{0.919}$	.026	.124	.006	.395	113.6	9.6
$Q_{200} = 434 W_{ac}^{0.905}$	.029	.141	.006	.420	124.9	9.9
$Q_{500} = 682 W_{ac}^{0.892}$	.035	.166	.006	.454	141.3	10.1
Northeast Plains Region (n = 44)						
$Q_2 = 4.71 W_{ac}^{1.36}$	.009	.177	.014	.447	137.5	1.8
$Q_5 = 16.2 W_{ac}^{1.32}$	.008	.139	.013	.399	115.4	2.7
$Q_{10} = 30.3 W_{ac}^{1.29}$	.008	.128	.012	.385	109.7	3.8
$Q_{25} = 57.1 W_{ac}^{1.26}$	.008	.126	.012	.383	108.6	5.1
$Q_{50} = 83.8 W_{ac}^{1.24}$	.009	.130	.012	.388	110.9	6.0
$Q_{100} = 116 W_{ac}^{1.23}$	.010	.137	.011	.397	114.6	6.7
$Q_{200} = 156 W_{ac}^{1.22}$	.011	.145	.011	.409	119.6	7.2
$Q_{500} = 217 W_{ac}^{1.20}$	.012	.161	.011	.428	128.6	7.6

East-Central Plains Region (n = 77)						
$Q_2 = 8.26 W_{ac}^{1.17}$	.007	.149	.010	.408	119.3	2.6
$Q_5 = 31.4 W_{ac}^{1.14}$	.006	.106	.010	.349	95.4	4.3
$Q_{10} = 61.4 W_{ac}^{1.12}$	.006	.097	.009	.335	90.2	6.1
$Q_{25} = 120 W_{ac}^{1.10}$	.006	.099	.009	.338	91.4	8.1
$Q_{50} = 181 W_{ac}^{1.09}$	.007	.107	.009	.350	95.8	9.0
$Q_{100} = 259 W_{ac}^{1.08}$	.008	.118	.009	.367	102.3	9.6
$Q_{200} = 355 W_{ac}^{1.07}$	.008	.133	.009	.387	110.5	9.8
$Q_{500} = 515 W_{ac}^{1.06}$	.010	.157	.008	.418	123.7	9.8
Southeast Plains Region (n = 60)						
$Q_2 = 4.24 W_{ac}^{1.47}$	.004	.090	.016	.333	90.9	2.8
$Q_5 = 15.4 W_{ac}^{1.34}$	.004	.061	.013	.279	72.7	5.3
$Q_{10} = 30.2 W_{ac}^{1.26}$	.004	.054	.012	.263	67.5	8.0
$Q_{25} = 60.5 W_{ac}^{1.18}$	.004	.053	.010	.260	66.5	11.0
$Q_{50} = 93.2 W_{ac}^{1.14}$	.004	.058	.010	.269	69.4	12.2
$Q_{100} = 136 W_{ac}^{1.09}$	.005	.067	.009	.284	74.3	12.6
$Q_{200} = 192 W_{ac}^{1.05}$	.006	.079	.008	.304	80.8	12.5
$Q_{500} = 291 W_{ac}^{1.00}$	.007	.099	.007	.336	92.2	11.8
Upper Yellowstone-Central Mountain Region (n = 85)						
$Q_2 = 2.44 W_{ac}^{1.52}$	.003	.058	.017	.279	71.6	2.7
$Q_5 = 10.1 W_{ac}^{1.29}$	.003	.056	.012	.267	67.8	4.1
$Q_{10} = 21.3 W_{ac}^{1.18}$	.003	.061	.010	.273	69.7	5.1
$Q_{25} = 45.9 W_{ac}^{1.06}$	.004	.073	.008	.291	75.3	6.2
$Q_{50} = 75.1 W_{ac}^{0.979}$	.004	.085	.007	.310	81.6	6.6
$Q_{100} = 115 W_{ac}^{0.914}$	.005	.098	.006	.330	88.7	6.8
$Q_{200} = 170 W_{ac}^{0.855}$	.006	.114	.005	.353	97.1	7.0
$Q_{500} = 271 W_{ac}^{0.787}$	.007	.137	.005	.385	109.5	7.0
Southwest Region (n = 43)						
$Q_2 = 1.21 W_{ac}^{1.67}$	.003	.035	.021	.242	60.5	2.5
$Q_5 = 4.62 W_{ac}^{1.41}$	.003	.036	.015	.231	57.2	3.5
$Q_{10} = 8.94 W_{ac}^{1.29}$	.004	.047	.012	.250	62.8	3.6
$Q_{25} = 17.9 W_{ac}^{1.17}$	.005	.066	.010	.284	73.2	3.6
$Q_{50} = 27.9 W_{ac}^{1.09}$	.006	.082	.009	.311	82.1	3.6
$Q_{100} = 41.8 W_{ac}^{1.02}$	.007	.099	.008	.338	91.3	3.6
$Q_{200} = 60.3 W_{ac}^{0.951}$	.008	.117	.007	.364	101.0	3.5
$Q_{500} = 93.2 W_{ac}^{0.875}$	.010	.143	.006	.398	114.9	3.5